

ABSTRACT

An aluminum titanate-based ceramic article having a composition comprising u ($\text{Al}_2\text{O}_3\text{-TiO}_2$) + v (R) + w ($3\text{Al}_2\text{O}_3\text{-2SiO}_2$) + x (Al_2O_3) + y (SiO_2) + z ($1.1\text{SrO-1.5Al}_2\text{O}_3\text{-13.6SiO}_2\text{-TiO}_2$) + a ($\text{Fe}_2\text{O}_3\text{-TiO}_2$) + b (MgO-2TiO_2), where, R is $\text{SrO-Al}_2\text{O}_3\text{-2SiO}_2$ or $11.2\text{SrO-10.9Al}_2\text{O}_3\text{-24.1SiO}_2\text{-TiO}_2$, where u, v, w, x, y, z, a and b are weight fractions of each component such that ($u+v+w+x+y+z+a+b=1$), and $0.5 < u \leq 0.95$, $0.01 < v \leq 0.5$, $0.01 < w \leq 0.5$, $0 < x \leq 0.5$, $0 < y \leq 0.1$, $0 < z \leq 0.5$, $0 < a \leq 0.3$, and $0 < b \leq 0.3$. A method of forming the ceramic article is provided. The ceramic article is useful in automotive emissions control systems, such as diesel exhaust filtration.